

ABSTRACT

Disclosed herein is a siloxane-based resin prepared by hydrolyzing and polycondensing a cyclic siloxane compound, a silane compound having three hydrolysable functional groups and a silane compound having three hydrolysable functional groups and one heat-labile functional group, in an organic solvent in the presence of a catalyst and water. Also, disclosed herein is a method of forming an insulating film between interconnect layers of a semiconductor device using the siloxane-based resin thus prepared, whereby an insulating film having low dielectric constant as well as excellent mechanical properties can be obtained.